**UNIVERSITY OF NEWCASTLE**

**HUMAN RESEARCH ETHICS COMMITTEE**

**INITIAL APPROVAL SUBMISSION**

**FOR**

**INFT3800 – PROFESSIONAL PRACTICE IN IT**

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1. **Protocol Identification**
   1. Project Title – Effectiveness of Sound Displays in Assisting Task Completion within Video Games and Human-Computer Interaction.
   2. Project Summary – This research will investigate how sound displays can be used to assist in completion of tasks within computer games, in this case Call of Duty: Ghosts. Consenting participants will be from the University of Newcastle and/or adults 18+ (years of age), they will be sourced in-person or online. These participants will be provided sound and no sound during two separate games and analysis of objective completion will contribute to the results. Other research methods including interviews will be used as another form of analysis and all data gathered will be kept safe and proper disposal will be undertaken. The result of this research will be published as an international journal paper.
   3. Duration of the project – 6 months
   4. Research Personnel – Principal Investigator (PI), Co-PI, Research Director/Supervisor, Research Associate, 2 x Research Assistant, Statistician
2. **Type of research**

|  |  |  |
| --- | --- | --- |
| Yes | No | Does your project involve: |
|  | x | Research to be conducted outside Australia involving participants |
|  | x | Research on workplace practices or possibly impacting on workplace relationships |
|  | x | Deception or limited disclosure to participants |
|  | x | Access to existing data sets, databanks, or human tissue banks |
|  | x | Collection, extraction or use of human tissue (including cell lines), blood or other body fluids |
|  | x | Access to personally identifiable information / records / human tissue samples (including cell lines other than those acquired commercially) without specific consent from the individuals to whom the information/records relate |
|  | x | Human genetic testing / research |
|  | x | A cellular therapy |
|  | x | Exposing participants to ionising radiation |
|  | x | Clinical trial under the CTN or CTX scheme |
|  | x | Use of gametes or use or creation of embryos |
|  | x | Use of drugs; alternative / complementary therapies or care; or surgical, or other therapeutic or diagnostic procedures and devices |
| x |  | \*Other type of research not covered above  *Note: You must tick Yes if you have answered 'No' to all of above* |

1. **Research population**

The category and source of participants being sought for this research are:

Select all that apply even if there will not be direct contact with the participants. You must select at least one.

|  |  |
| --- | --- |
| x | Adults 18 years of age or older |
|  | Children, or young people under 18 years who are not University students |
|  | A focus on Aboriginal and Torres Strait Islander (ATSI) peoples, groups, communities or issues |
|  | A focus on women who are pregnant, and/or research involving the human foetus |
|  | A focus on people with a cognitive impairment, an intellectual disability, or a mental illness |
|  | Adult participants who will not be competent to give consent are expected to be recruited |
|  | People highly dependent on medical care who may be unable to give consent, eg unconscious or too ill |
| x | The general public |
| x | Students or staff of University of Newcastle |
|  | Students or staff of other universities / colleges |
| x | School children, ie recruited through schools |
|  | Volunteer registers or databases |
| x | Members of particular community groups/ organisations |
| x | Employees of particular organisations |
|  | Clients / patients of health service providers |
|  | Hospital in-patients |
|  | Clients of organisations / community services |
|  | Prisoners or those held in detention |
|  | People who have a sight or hearing impairment |
|  | People with a specific health condition |
|  | People in a dependent or unequal relationship with the researchers |
|  | Participants not proficient in the English language |
|  | Records / information about people without contact with those people |
|  | Human tissue collections without contact with the donors |
|  | People who could be exposed to civil, criminal or other proceedings as a result of the research |
|  | Other |

1. **Research Methods/Techniques**

The research methods / techniques to be used in the research are:

Select all that apply. You must select at least one.

|  |  |
| --- | --- |
| x | Computer based tests |
|  | Data linkage |
|  | Focus groups |
| x | Interviews face-to-face |
|  | Interviews telephone |
| x | Internet / web based research |
| x | Observation of people |
|  | Covert observation |
|  | Photographs of people |
| x | Physical activities / exercises / tests |
|  | Psychological tests |
|  | Questionnaire / survey / diary anonymous |
| x | Questionnaire / survey / diary identifying |
| x | Record / document analysis |
| x | Taping audio / video |
|  | Access to and/or use of information from a Commonwealth Agency    Access to and/or use of information from a private sector organisation |
| x | Case study |
|  | Case-control study |
|  | Epidemiological or other quantitative research |
| x | Qualitative research |
|  | Randomised controlled trial |
|  | Intervention study |
|  | Administration of drug / medicine (incl complementary / alternative) |
|  | Use of a placebo |
|  | Use of a medical device |
|  | Human stem cell therapy |
|  | Other |

1. **Consent process**

What method(s) of consent will be used to enable the research to be conducted?

Select all that apply. You must select at least one.

|  |  |
| --- | --- |
| x | Written informed consent |
| x | Recorded informed consent |
| x | Parent / Guardian / Carer consent |
|  | Child's assent with parent / guardian consent |
|  | Young person 16-17 years consent |
|  | Child < 16 years consent |
|  | Organisational consent, ie from a CEO, Director, Manager, Principal, etc. |
|  | Implied consent |
|  | Retrospective consent |
|  | Waiver of informed consent sought    Waiver of parent / guardian consent sought |
|  | Existing consent |
|  | Other |

1. **Research sites**

List the research sites, ie the communities / schools / hospitals / organisations etc from which participants will be sourced.

If more than 10, give number and type, eg "12 NSW government primary schools in the Hunter region".

1, University of Newcastle Australia

2, NSW gyms in the Hunter Region

3, Pulse Climbing Wallsend & Maitland

4, “Newcastle and Hunter Community AUS” – Facebook

5, NSW shopping centres in the Hunter Region

6, NSW government High Schools in the Hunter Region (participants 18+)

7, NSW libraries in the Hunter Region

8, NSW chess groups in the Hunter Region

1. **Participants numbers**
2. What is the total number of participants to be recruited at all sites involved in the research?  75
3. What is the total number of participants covered by this application?    75
4. What is the rationale for that number? This ethical application will cover all participating members as everyone will have the same rules and responsibilities
5. **Project details**

In the following sections, provide a brief 'plain English' description of the project.

1. Background to project:

This project aims to understand how sound affects gameplay and completion of tasks within video games. The participants will play a first-person shooter (FPS) game known as Call of Duty: Ghosts and will play two matches, one match experiencing no audio and the other with audio. The results of this research will be analysed via Xbox’s built-in game capture feature where reviewing of performance and objective statistics can be performed post-gameplay. A Likert-scale, open ended questions, observations and interviews will be used in conjunction to capture feedback from the participants

1. Aim/Hypotheses:

Aim – To determine the relationship between sound and player performance in a first-person shooter game.

Hypothesis – Player performance of participants with no sound will be decreased.

1. Potential values of significance of the research:

This research project will help to give an understanding of how a sound display does or does not assist in individuals performing tasks. This research will also be beneficial in future applications as the findings can be used as a factor when determining if audio will be necessary in assisting users with their tasks. For example, training modules for new employees may benefit from the findings in this research, as relevant audio could give the employees a greater ability to complete the tasks.

Thus, this research can be generalised to multiple other human-computer interactions.

1. **Participants**

How, and by whom, will potential participants be selected

1. Contacted and Recruited:

The participants will be contacted and recruited either via direct confrontation and obtaining contact details for future reference, or by online communication with users that have opted to volunteer for the study with regards to the post on the forum listed above.

1. The participants will be identified as eligible for participation
2. The research study will be explained to the participants
3. Recruitment will take place
4. Obtain informed consent either written or recorded

These processes will be performed by the research assistants under rule of the research director/supervisor.

1. Detail the procedure to be used to ensure voluntary and informed consent:

Before the procedure takes place the “interviewer” will ensure the subject is over the age of 18 and/or is a University of Newcastle student/staff, the subject does not have any problems relating to visual or auditory perception and the subject has the capacity to give voluntary consent (I.e., not inebriated).

The procedure to ensure voluntary and informed consent will go as follows.

1. The proposed research will be discussed with the individual, outlining what they will be doing and how they would do it. This will elicit the goals of the research and the means to achieve the goals
2. The potential risks and benefits of the research project will be made clear to the individual. For instance, a risk could be that users will be simulating first person gun violence and graphic scenes. This will elicit the hardest parts/risk of the research the individual will need to undergo and the potential benefits of undergoing such tasks. The use of including benefits will not be used in a way that will pressure the individual into consenting.
3. Questions may be asked at any time during the discussion process and the individual will know that, but during this phase the individual will be asked if they have any questions so far regarding the information.
4. Time will be given to the subject to allow them to fully comprehend all the information to have an informed opinion on the proposal
5. The question asking the subject if they want to participate in the research will be asked and a consent form will be provided for them to sign if they do decide to agree with the terms and conditions. A recorded informed consent will also be considered a valid form of consent, the subject will need to provide photo ID during this recording. If a student at the University of Newcastle is younger than 18, a parent consent form will be necessary for them to be accepted as a participant.
6. Inclusion and exclusion

Inclusion Criteria:

* Student or Staff at the University of Newcastle
* Individuals aged 18 years or older

Exclusion Criteria:

* Individuals that have problems with visual perception
* Individuals that have problems with auditory perception
* Individuals unable to give informed consent

1. What is required of participants?

The participants are required to:

* Agree to the terms and conditions, and provide a valid form of consent
* Play two separate games of Call of Duty: Ghosts against computer-controlled soldiers set to “Regular difficulty” on the Xbox one, one game will last for 5-10 minutes
* When playing these two games the participants will have one map where the sound is off and the other map where the sound is on, these set maps will have one that is small and one that is large. The map order is randomly allocated between participants
* A short questionnaire will be asked to be completed relating to their experiences in the game and to gather non-identifying demographic information about the participants. The questionnaire will use open-ended question allowing the user to provide any feedback necessary and a Likert-scale to scale responses in this survey research
* Complete an interview with audio/video to understand the participants after test experience qualities

1. **Analysis and reporting**
2. How information gathered will be analysed

Only data from participants who have agreed on their data being used for research will be analysed.

The performance information of all games will be analysed by splitting the data into two different sets, one set will contain the “sound off” performance while the other will contain the “sound on” performance. Analysis of these sets will be provided via descriptive analysis; this will help to summarise the data and to uncover patterns. Included in these statistics are percentages, mean, mode, frequency and range. This descriptive analysis will also be used when classifying the non-identifying demographic information in conjunction with performance, patterns may emerge.

Using the screen captured footage of gameplay content analysis will be used. Detailed differences and comparisons can be made between the two “sound” groups measuring objective performance statistics. This will include differences and/or similarities in decision-making, movement, reasoning, etc.

The Likert-scale will provide quantitative data to back up or to refute the assumptions created when patterns emerge. The open-ended questions provide qualitative data looking for the most common answers to questions and will be helpful in finding areas to be explored further.

Observation will occur throughout the entire research, this information is documented and analysed to elicit the behaviours exhibited by the participants when they are conducting their tests, during the interview and the questionnaire. Noticing if they experience typical or atypical emotions to various scenarios will contribute to the understanding of how sound effects task completion.

The qualitative data uncovered by the interviews will be noted and ideas discussed within will influence the analysis of the other data gathered.

1. How the research will be reported/disseminated

The research will be published as an international journal paper.

1. **Storage access and disposal of data**

Detail the mechanism that will be in place to ensure appropriate storage, access and disposal of data:

The data will be stored within the cloud and a backup copy of all information will be stored on an external hard drive. To access this data users will need to be whitelisted to the cloud service, this will ensure security and integrity. Access to the back up copy will only be available to the PI. Once the minimum retention period for the data has been reached proper disposal will take place, this involves overwriting the hard drive and erasing the cloud storage.

1. **Confirmation**

Information I have provided in this submission is accurate and complete.

1. **Declaration**

In making this submission, I declare that:

* The application is ONLY to fulfil the course assessment requirement of INFT3800 – Professional Practice in IT.
* The research protocol in this submission conforms to the National Statement on Ethical Conduct in Human Research, 2007, which I have read.
* I undertake to conduct the research in accordance with the approved protocol, the National Statement, relevant legislation and the policies and procedures of the University of Newcastle.
* Where I am the project supervisor for the research described herein which will be conducted by a student of the University of Newcastle, I declare that I have provided guidance to the student in the design, methodology and consideration of ethical issues of the proposed research.
* I make this application on the basis that the information it contains is confidential and will be used by the course coordinator of INFT3800 at the University of Newcastle for the purposes of ethical review and monitoring of the research project described herein, and to satisfy reporting requirements to regulatory bodies. The information will not be used for any other purpose without my prior consent.